

I Claim:

1. A system for exchanging addressing information between optical nodes in an optical network comprising:  
address registration means to register an address assigned to an optical node;  
means to detect registration of an assigned address and to initiate a message to other nodes in the network in response thereto, said message carrying the address information; and  
means at each node to store the address information carried in the message.
2. The system as defined in claim 1 wherein said address information represents a client-level address of a point of attachment of a node in the network.
3. The system as defined in claim 2 wherein the client-level address is the address of a unit of customer premise equipment (CPE) attached to the network.
4. The system as defined in claim 3 wherein said network has cross-connect switches for switching messages through the network.
5. The system as defined in claim 4 wherein said message is via an Internal Border Gateway Protocol (IBGP) over a Border Gate Protocol (BGP) connection.
6. The system as defined in claim 5 wherein the assignment registration is implemented by a User Network Interface (UNI) Address Registration request.

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7. The system as defined in claim 5 wherein the assignment registration is implemented by a Command Line Interface (CLI) command.
  8. The system as defined in claim 5 wherein the assignment registration is implemented by a Simple Network Management Protocol (SNMP) request.
  9. The system as defined in claim 5 wherein the cross-connect switches are IGPB peers.
  10. The system as defined in claim 9 wherein the optical node point of attachment is configured on the cross-connect switches using a CLI command.
  11. The system as defined in claim 9 wherein the optical node point of attachment is configured on the cross-connect switches using a SNMP request.
  12. The system as defined in claim 9 wherein the optical node point of attachment is configured on the cross-connect switches using an Element Management System (EMS).
  13. The system as defined in claim 9 implementing a UNI Address Resolution service.
  14. The system as defined in claim 9 implementing a Network Management System (NMS) address service.
  15. A method of exchanging addressing information between optical nodes in an optical network comprising:

registering an address assigned to an optical node;  
detecting registration of an assigned address and initiating a message to  
other nodes in the network in response thereto, said message carrying the  
address information; and  
storing, at each node, the address information carried in the message.

16. The method as defined in claim 15 wherein the address information includes client-level address and network point of attachment information.
17. The method as defined in claim 16 optical nodes exchange information by piggybacking Internal Border Gate Protocol (IBGP) messages sent over Border Gate Protocol (BGP) connections configured between edge optical nodes.
18. The method as defined in claim 17 wherein each node involved in the IGBP messaging has knowledge of all optical network point-of-attachment and associated client level addresses.